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WESTERN CANADA AND THE PACIFIC

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Two rival Canadian ports on the Pacific coast are of special interest at this time in view of the prospective opening of a Hudson Bay route to Europe for western Canada's wheat fields and the strong leveling tendencies in cereal distribution that have their origin in the war. Vancouver is an established port, having all the strength that grows out of a fixed place in the commercial scheme. Its competitor, Prince Rupert, 400 miles north, is new and untried. It hopes to become a Pacific emporium and to rival not only Vancouver but the cities of eastern Canada. It is already the terminus of the Grand Trunk Pacific Railway. What are its tributary economic areas? In the commercial race that goes hand in hand with the swift agricultural development of the Canadian prairies, what are its prospects of success? To answer these questions one must look not only at the resources of the regions that feed these two outlets but also at the principles of port development that apply the world over.

The advance of farming across the Canadian prairies has been marked by the steady northward extension of the zone of active development, largely because of better climatic conditions in the north for the production of the chief commercial crops—wheat, oats, and flaxseed. Central Saskatchewan and the region westward to Edmonton, Alberta, quickly led in the heavy production of cereals. These newer farming localities lie to the north of the line of direct communication with the original Pacific outlet at Vancouver and occupy such positions with reference to other parts of the Pacific coast as to lead naturally to the consideration of building new railroads to new ports on the western ocean.

There are at least four large factors which obviously would influence the selection of routes to the Pacific from the Canadian prairies. In the first place, the distance to which the cultivated area is extended northward largely determines the practicability (or economy) of shipping by the original route (Canadian Pacific) to Vancouver. From the region of Edmonton, via Calgary, to Vancouver it is 100 miles farther and much more difficult (Fig. 5) than to more northerly Pacific points, as Prince Rupert. In the second place, the location of passes across the Canadian Rocky Mountains and of natural routes through the rugged belt to the west largely determines the feasibility of building new trans-Cordilleran railroads to connect the farming communities and the Pacific coast. There are a number of good passes across the main mountain ranges between the 49th and the 60th parallels, which represent the approximate limits of the possible wheat-producing area. Some of these passes, however, are of little or no use to the region, because of unfavorable location with respect to producing centers or to trans-Cordilleran routes (Howse Pass; Fig. 1). Satisfactory routes through the belt of rugged highland four hundred miles wide must be sought along valleys, preferably those which extend all the way from the Rocky Mountains to the Pacific coast or, if necessary, along low-gradient valleys which head near each other on a low intervening divide (Fig. 1).

A third factor, equal in importance to either of the others, is the character and location of harbors, or sites for commercial ports, to be reached by these routes. British Columbia has a typically fiorded coast, which means

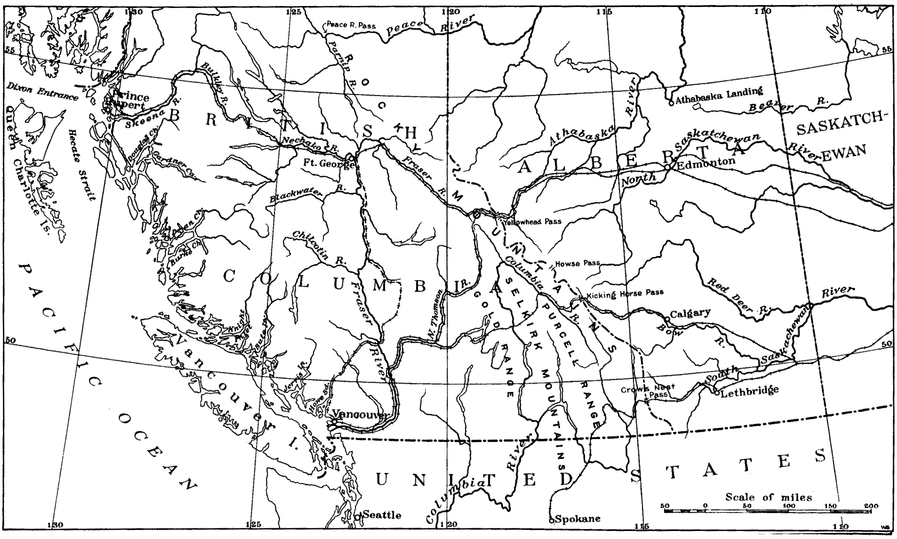

FIG. 1—Sketch-map showing rivers and routes of western Canada. Scale, 1:15,000,000. *Note:* For "Parnip R." (56° N.) read Parsnip R.

there are many deep, well-sheltered indentations (Fig. 1), more in fact than possibly could be utilized as harbors in the development of commercial centers for Pacific Canada. For various reasons, however, many of these indentations are unsuitable for port developments, as is illustrated by the typical case of Bute Inlet (Fig. 2). In some the water is too deep to provide good anchorages; some have such narrow, winding entrances as to make the passage of vessels difficult or unsafe; a majority are bordered by land too precipitous, or too rugged, to permit satisfactory development of an important commercial city; and nearly all of them are difficult to reach from the interior. To these general objections, applying in one way or another to almost all the indentations, there must be added the fact that nearly half the mainland coast of British Columbia lies back of Vancouver Island (Fig. 1), which means that, except for the indentations near the northern and the southern ends of the island, a serious handicap is imposed by the long and roundabout route necessary to reach these harbors, which lie shut off from the open ocean by the island barrier. Finally, the natural resources and economic prospects of the country to be traversed would vitally affect profitable railroad development, and so influence the choice of routes.

Of the four enumerated factors apparently the greatest is the character and location of the valleys. Outside the routes made possible by the chief valleys, the high altitudes and extreme ruggedness would involve steep grades, high costs of construction and of operation, and other handicaps serious enough, presumably, to prevent any attempts to build trans-Cordilleran lines. Excluding valleys in British Columbia that lead into the United States or the territory of Alaska, the zone of possible port development is narrowed to the strip between latitude 49° and latitude 54° 40′, or a straight-line distance of only 400 miles. Within these limits, there are numerous streams entering the Pacific, each one of which has fiorded sections close to its mouth and potential harborage; but most of these streams rise in, or on the Pacific side of, the Coast Range and do not provide outlets for trans-Cordilleran routes (Fig. 1). Only two of the rivers, the Fraser and the Skeena, receive tributaries which rise very far to the east of the Coast Range, and thus their valleys are the only ones which provide large gaps in the great topographic barrier of coastal British Columbia.

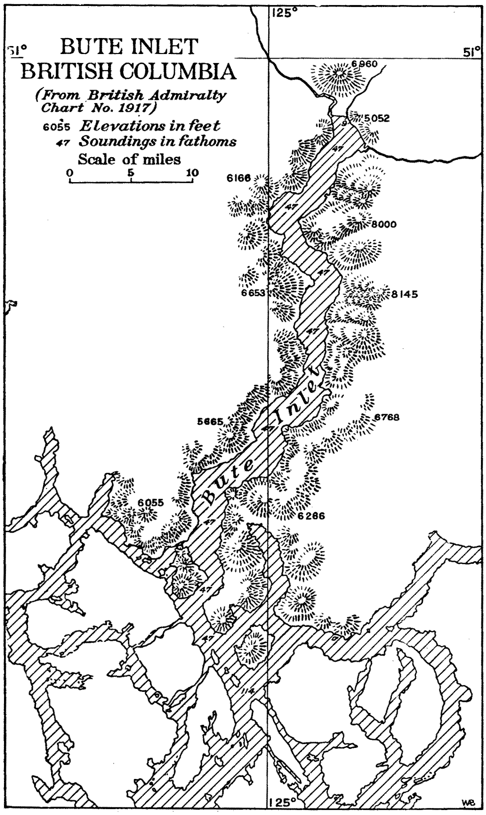

FIG. 2—Sketch-map of Bute Inlet, useless for commercial purposes. Scale, 1:1,000,000.

The Fraser has a system of three important tributary lines, one from the east, one from the northeast, and one from the north (Fig. 1), or, as they may be named according to tributary waters, the South Thompson-Fraser, the North Thompson-Fraser, and the main Fraser routes, uniting in the lower valley which comes out to the Pacific nearly opposite the southern end of Vancouver Island. These three tributary valleys, furthermore, head toward the eastern edge of the Cordilleran belt and not far from good passes over the Rocky Mountain barrier. The Skeena, on the other hand, has a much smaller system, enters the ocean close to the Alaskan boundary, and has only two tributary lines, one from the north and one from the east, the main Skeena and the Bulkley. Neither of these valleys heads close to the Rocky Mountains, but both must be approached from the east through the valleys occupied by the upper waters of Fraser or Peace River tributaries (as the Nechako and Oslinka).

In the four hundred miles between the Fraser and the Skeena, several rivers enter the conspicuous "channels" or "inlets," as they are there called, but they are of no commercial value. Nothing would be gained, for example, by seeking outlets from the Fraser River basin, in central British Columbia, over the divide of the Coast Range, into such valleys as those which lead to Knight, Bute, Toba, and Jervis Inlets (Fig. 1). The two rivers entering Douglas Channel and Gardner Channel north of Vancouver Island are only a hundred miles from the mouth of the Skeena. They are comparatively short streams, heading on the western slope of the Coast Range. The only other ones which are worth mentioning head east of the Coast Range: the Salmon River flowing to Dean Channel, and Bella Coola River to Burke Channel (Fig. 1). Between their headwaters and the tributaries (Blackwater and Chilcotin) of the Fraser system, however, there is the obstruction of a comparatively broad and high divide. Further, the route from prairie points via one of these valleys to the coast would be very devious, and the coastal topography is prohibitively rugged (Fig. 2).

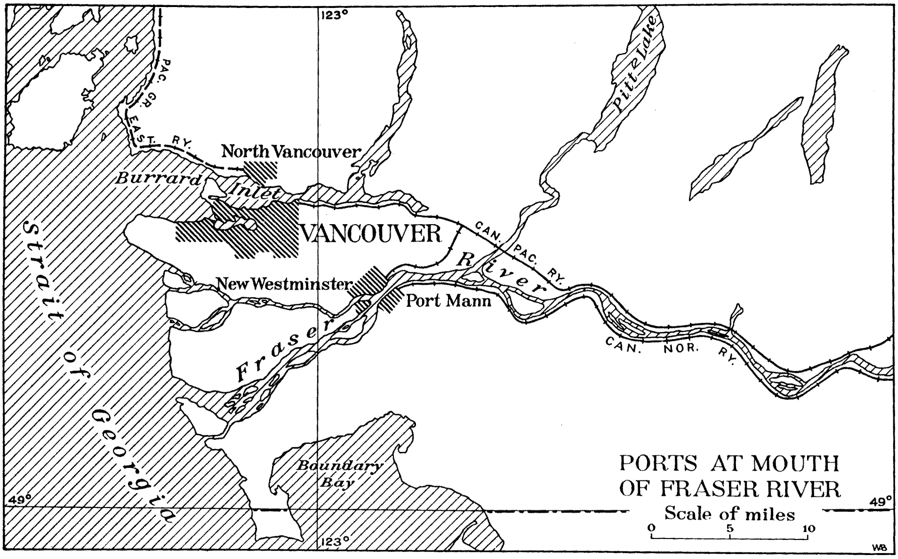

FIG. 3—Sketch-map showing the ports near the mouth of the Fraser River. Scale, 1:800,000.

There is not much difference in the quality of the harbors of Vancouver and Prince Rupert;[1] each harbor is large enough and deep enough to accommodate all the shipping that it may be called upon to receive. They are admirably protected by lines of sheltering islands and prominent headlands (Figs. 3 and 4). Both have long usable water frontage, offering almost unlimited possibilities for wharf and dock development. Both have adjacent sites suitable for the development of cities of large proportions. The moderately hilly character of the land about the harbors makes town sites unusually attractive both from the standpoint of scenery and that of public health. The only notable difference between the harbors is in the character of the entrances. Vancouver lies some distance north of the southern end of Vancouver Island, which necessitates a voyage of approximately 200 miles, through the Strait of Juan de Fuca and the Strait of Georgia (Fig. 1), where, in foggy or stormy weather, the problem of navigation may be difficult. Prince Rupert, on the other hand, through Dixon Entrance to the west or the broad Hecate Strait to the south (Fig. 1), has a wider, more direct, and somewhat shorter entrance from the Pacific. However, this advantage is probably altogether too small notably to affect the development of Prince Rupert.

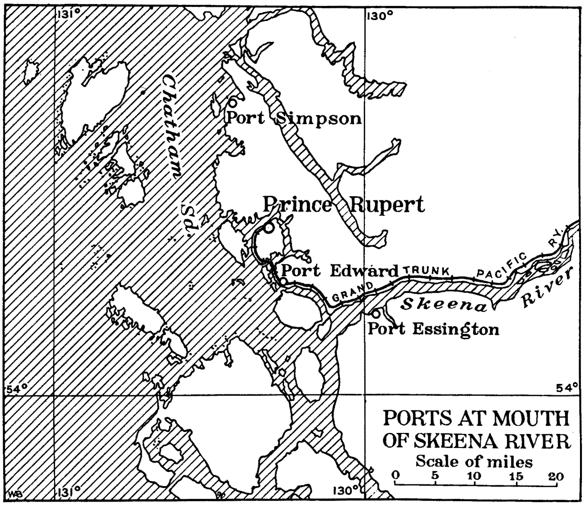

FIG. 4—Sketch-map showing the ports near the mouth of the Skeena River. Scale, 1:1,500,000.

What is the character of the land adjacent to the two localities? Within a radius of a hundred and fifty miles from either port the land is rugged, heavily forested, with small agricultural possibilities, and for the most part not known to be especially rich in mineral resources. There is more cultivable land near the lower Fraser valley and on Vancouver Island, however, than there is near the lower Skeena valley and on the Queen Charlotte Islands, for it might almost be said that good agricultural land of any considerable extent does not exist within a hundred and fifty miles of Prince Rupert. There is also a difference in the character of the forests. Along the southern part of the British Columbia coast is found one of the most valuable commercial forests of fir, hemlock, and cedar in North America.

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[1] Except for harbor conditions the factors affecting Vancouver may be said to cover the other towns of that district, including New Westminster, North Vancouver, and Port Mann; while Prince Rupert likewise covers the case for Port Edward, Port Essington, and Port Simpson (Figs. 3 and 4).

In the vicinity of Prince Rupert, on the other hand, where conditions (of climate especially) are less favorable, the trees are smaller, the stand is not so heavy, and there is a predominance of the less valuable kinds, like hemlock and spruce.

The Vancouver region appears in the present state of information to be superior in mineral resources. At all events, there is little reason to suppose that the productive coal fields of Vancouver Island are equaled by deposits in the lower Skeena basin.

Prince Rupert is nearer to Alaska; it is nearer to Oriental ports as far south as Shanghai; and it is the Pacific terminus of the shortest route (now and probably for the future) between eastern Canadian (or western European) localities and those Oriental centers north of Shanghai. Vancouver, on the other hand, is nearer to the United States, to the Panama Canal, to all points reached by way of the canal, and to places in the Orient south of Shanghai. The sailing and steamship routes most frequented in the Pacific lie mainly far to the south of Prince Rupert. Hence existing trade relations for the Pacific seem unlikely to lead to the passage of shipping close enough to Prince Rupert to make that place a convenient port of call. Shipping between Alaskan and southern ports, relatively unimportant, is the only exception to this condition. Vancouver, on the contrary, is much more favorably located with reference to the long-established (and probable future) shipping routes in the North Pacific, largely as a result of its proximity to the important Pacific ports of the United States.

The relative merits of the routes inland from Vancouver and Prince Rupert must be determined largely on the basis of (1) distances between the ports and their respective productive areas, (2) the potential resources of the Cordilleran section through which the lines run, and (3) the extent and character of the entire region from which traffic can be drawn. It may be noted, first, that a radius of 500 miles (air-line distance is in this case comparable to road mileage) from Vancouver as a center, includes all the Cordilleran (British Columbia) region south of latitude 56°, and the western margin of the prairies from the Peace River country on the north to the plains of southern Alberta, over a width ranging from a hundred to two hundred miles east of the Rocky Mountain axis. A similar radius from Prince Rupert as a center includes the greater part of central and southwestern British Columbia, but only a relatively small strip of the prairies, mainly in the Peace River country and to the north. The area lying exclusively within the Prince Rupert radius, in north-central British Columbia and the northern prairies is less valuable economically than the areas lying exclusively in the Vancouver radius in southern British Columbia and the southern prairies. So far as mileage of land haul is a factor, Vancouver seems to have a substantial advantage in being nearer to large regions with good prospects.

The economic possibilities of the country traversed by railway lines in

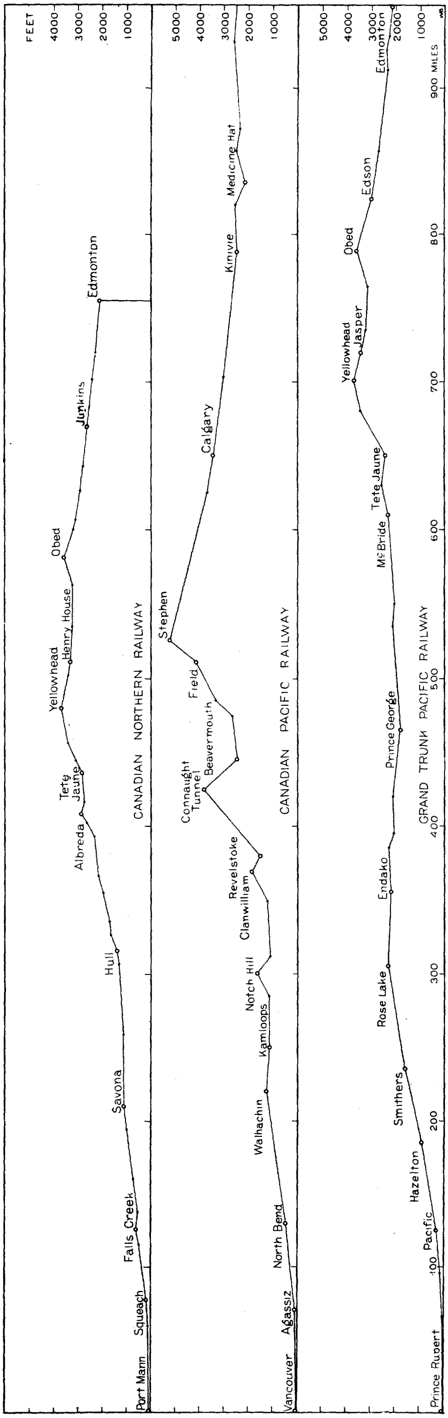

FIG. 5—Profiles of the three trans-Cordilleran railroads in Canada. Vertical exaggeration, about 85 times.

the Fraser basin are largely superior to those touched by railroads through the Skeena basin. Agricultural opportunities are just as good, if not better; forest resources are conspicuously greater; and mineral deposits, so far as is known, are much richer in and near the southern valleys than in those to the north. Thus, within the area naturally to be tapped by way of the Fraser routes, lie nearly all the important mineral-producing regions in the mainland of British Columbia. As a source of local traffic and an aid to profitable operation, therefore, the valleys of the Fraser system are the best for railroad routes between the prairies and the coast.

The extent of the region from which traffic logically may be drawn can hardly be marked out with rigid limits, but it must consist largely of British Columbia and the prairies east as far as the mountains about central Saskatchewan. East of Saskatchewan and perhaps in the eastern half of that province, there probably will continue to be some advantage in moving the traffic by way of an existing eastern outlet, or by one of the lines under construction (as the Hudson Bay route), except in the case of a limited traffic for Pacific destinations.

Southern British Columbia is more rugged than the central and northern parts of that province, hence the section closest to Vancouver contains less land well suited to agricultural and pastoral pursuits than the middle and upper Fraser basin, about equidistant from the two ports. Agricultural and pastoral possibilities, however, are not likely to operate in a large way in the development of these areas during the next few years, mainly because the difficulties confronting agriculture in the Cordilleran region are serious enough to give the prairie lands all the advantage in attracting agricultural colonists and labor. Two facts alone are adequate to support this conclusion. (1) Most of the cultivable lands of the Cordilleran region are forested, and impose on the prospective farmer an expenditure of time, labor, and capital so great that the whole cost of preparing the land for plowing may be greater than would be justified by the expectable returns from its cultivation. (2) A good many tracts, properly classified as arable lands, are for climatic reasons suitable only for hardy cereals (oats, barley, rye), vegetables, and some small fruits; but for such crops there is little demand in that region or any other within reach.

The forest resources are far more significant to the development of the region, for much of the southern half of British Columbia consists of ultimate forest land. The best and heaviest stands are toward the south, in the section tributary to Vancouver. In the central part of the province, especially along the Nechako-Skeena route to Prince Rupert, large tracts of forest now have little or no commercial value (Fig. 8). Some large areas have been injured or destroyed by fires, mainly during the last quarter of a century. Other large areas are covered with a growth of small-sized and inferior spruce, hemlock, and poplar. These forests might be exploited profitably to produce pulp wood, posts, fence rails, railroad ties, and the like, were there a large accessible market for them. Very few tracts of good saw-log timber are found as far north as the 54th parallel, or the approximate vicinity of the Skeena route. The line tributary to Prince Rupert, therefore, lies near the northern limit of cultivable crops and of valuable commercial forests in British Columbia and cannot derive much advantage from these two resources.

In the matter of mineral resources few deposits comparable to those in the Selkirk and Gold Ranges and other parts of southern British Columbia have yet been found in the more northerly localities, though exploration is likely to reveal new riches; but no great commercial port ever has been developed by traffic resulting from the production of ores alone. The northern section seems quite deficient in supplies of fuels of good grade, as a result of which a serious handicap may be imposed on its mining development as compared with the southern section, where an abundance of high-quality coal is available, such, for example, as the coal from Vancouver Island and the Kootenay region. All the important coal fields now known in British Columbia and nearly all the great coal supplies of Alberta lie within a 500-mile radius of Vancouver, with the greater part of these fields tapped by lines of transportation which naturally are tributary to that Pacific port. On the other hand, only a small part of the coal fields of

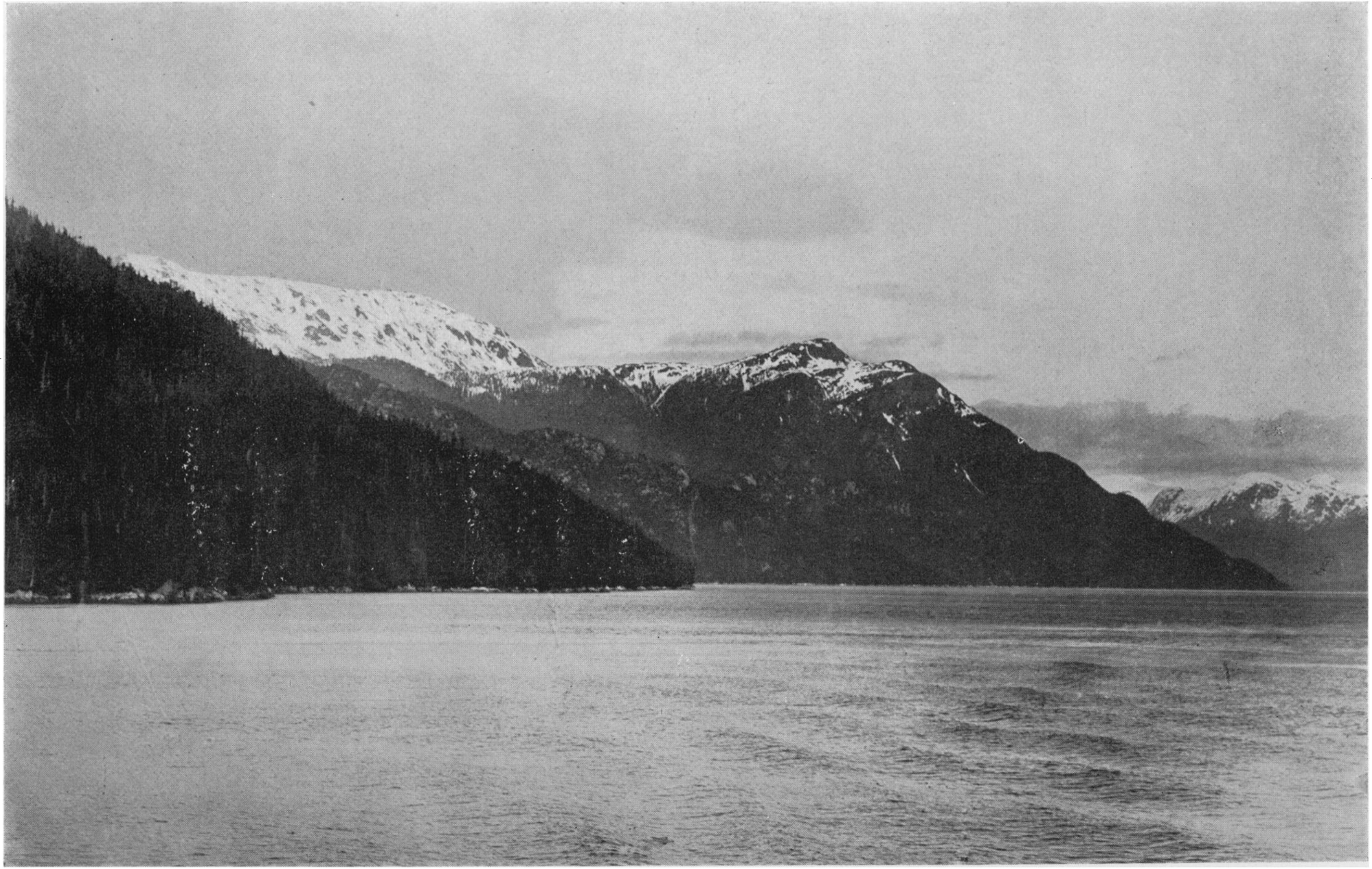

Fig. 6—The coast of British Columbia near the mouth of the Skeena River.

British Columbia (such as the Telkwa field in the upper Skeena basin) and the northern (poorer) end of the Alberta field lie within a similar radius of Prince Rupert, while from many of these coal areas there are no natural lines of movement tributary to that port. The natural resources in the Cordilleran section, therefore, give an overwhelming advantage to the Vancouver region.

Turn now to a comparison of the prairie regions tributary to the rival ports. The distance from Vancouver is materially shorter than the distance from Prince Rupert to the prairie area which is now developed, or is likely to have any large development in the near future (Fig. 5). Thus Edmonton, typical of the northern part of the prairie area, is but 755 miles (Canadian Northern Railway) from Port Mann and is 955 miles (Grand Trunk Pacific Railway) from Prince Rupert. This means, of course, that through all of the strip of prairie country from the international boundary northward beyond the Athabaska valley, the distance traveled to Vancouver need not be so great as that to Prince Rupert, unless a direct line of railroad is built through Peace River Pass, via the Oslinka to the Skeena. Such a line has not yet been projected.

The southwestern part of the Canadian prairie country, especially that part west of the 105th meridian and south of the Saskatchewan River, is agriculturally less valuable than sections farther to the east and to the north, on account of the scanty rainfall. The development of irrigation projects in the region south and east of Calgary has produced some conspicuous results, as at Lethbridge; but this basis of progress is not at all comparable to the prospects for agricultural development in the more northerly sections without irrigation. Evidently, then, the better parts of the western prairies lie farthest from Vancouver and closest to the passes over the Rockies (Yellowhead and Peace River) by which the Skeena route may be reached. Will this suffice to give Prince Rupert a commercial development greater than that which Vancouver can attain?

The southern prairie section will seek its western outlet mainly via Calgary and the Kicking Horse Pass (Canadian Pacific Railway) through the South Thompson-Fraser route to Vancouver. In spite of heavier grades along that line (Fig. 5), any other western Canadian outlet would involve distances so much greater that it could not possibly compete successfully. For the northern section there are two low passes now occupied or in the future presumably to be occupied by railroads to the Pacific. The Yellowhead Pass west of Edmonton is crossed by the Grand Trunk Pacific to reach the Nechako-Skeena route to Prince Rupert, and by the Canadian Northern to reach the North Thompson-Fraser route to Port Mann. The Yellowhead Pass offers the natural western exit from much of the good prairie section north of the Red Deer River and from all the section about Edmonton and north through the Athabaska country. The Peace River Pass, about 250 miles to the north, presumably will be crossed by a railroad which will serve as the logical western exit from that most northerly agricultural region, via the Parsnip either to the main Fraser or to the Nechako-Skeena route or via the Oslinka to the northern Skeena (Fig. 1).

From these two passes, Yellowhead and Peace River, as is not the case with Kicking Horse, routes lead both to Vancouver and to Prince Rupert. The Yellowhead Pass is nearer (200 miles) to Vancouver than to Prince Rupert (Fig. 1), while Peace River Pass is nearer to Prince Rupert than to Vancouver. From the Yellowhead, via the North Thompson-Fraser route to Vancouver, grades are lower (Fig. 5) than via the Nechako-Skeena route to Prince Rupert. Thus, all prairie traffic seeking an exit by the Yellowhead would find shorter distance and more favorable grades to the coast if routed to Vancouver instead of Prince Rupert.

From the Peace River exit, for the future agricultural development in the north, the best railroad route to the coast lies along the Parsnip, into the upper waters of the Fraser (North Fork) above the junction of the Nechako, for which route a railroad (extension of the Pacific Great Eastern) already has been projected. Thus the traffic from the Peace River region, following that route, would find somewhere near Fort George on the Fraser a point from which there are two ways of reaching the coast: westward to Prince Rupert (Grand Trunk Pacific Railway) through the Nechako-Skeena route, and southward to Vancouver (Pacific Great Eastern Railway) through the main Fraser route.[2]

With approximate equality of distance, the southern route has a distinct advantage in handling traffic from the dividing point at Fort George.

It is necessary, now, to take into account the destinations of western Canadian products, for the coastwise distance between Vancouver and Prince Rupert might offset the advantage of taking goods to the port nearer foreign destinations. It already has been noted that Prince Rupert is nearer to Alaskan and northern Oriental markets, while Vancouver has the advantage in the case of southern Pacific and Atlantic markets. The comparative importance of these respective areas as destinations for Canadian staple exports is so well known that it needs little discussion. Agricultural products, lumber, and minerals from western Canada, all find their best markets in Atlantic and southern Pacific localities. For a long time to come, if not permanently, this condition will exist. There is, then, a strong likelihood that the bulk of the traffic, even from the more northerly part of the prairies, will be drawn toward Vancouver, because of favorable distances for the land haul, easy railroad grades, and location of the port with respect to principal foreign destinations. Even for traffic moving to Oriental markets it is not impossible that the saving of more than 200 miles in land haul would more than offset the shorter ocean carriage from Prince Rupert, 480 miles nearer Yokohama than is Vancouver.

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[2] The Pacific Great Eastern leaves the main Fraser route at Lillooet, above the junction of the Thompson, and crosses two low divides to reach the Cheakampus River and Montagu Channel (Howe Sound), which are followed to North Vancouver. This saves some mileage but, more important, avoids the narrow lower Fraser valley, already followed by two railroads, with little room for another.

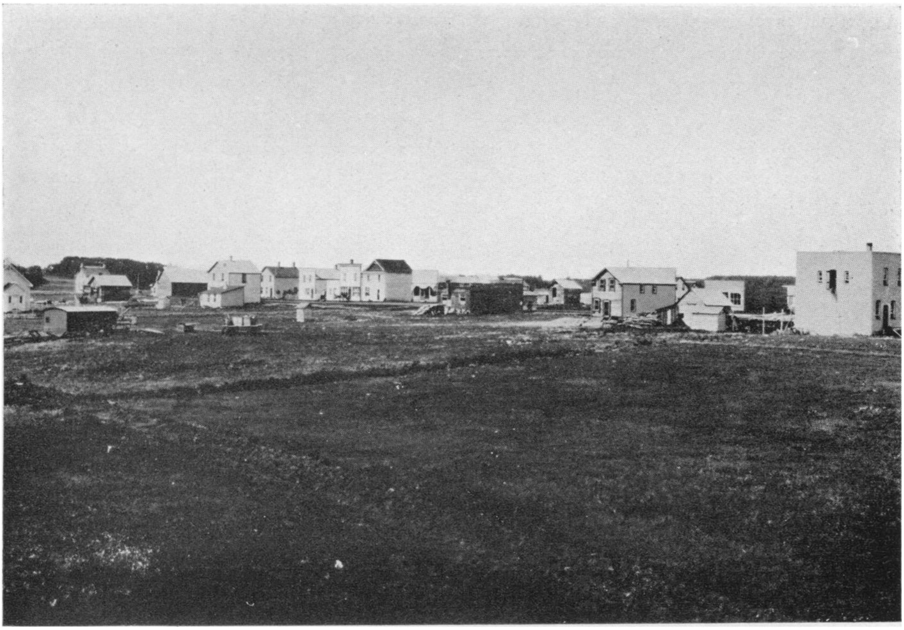

FIG. 7.

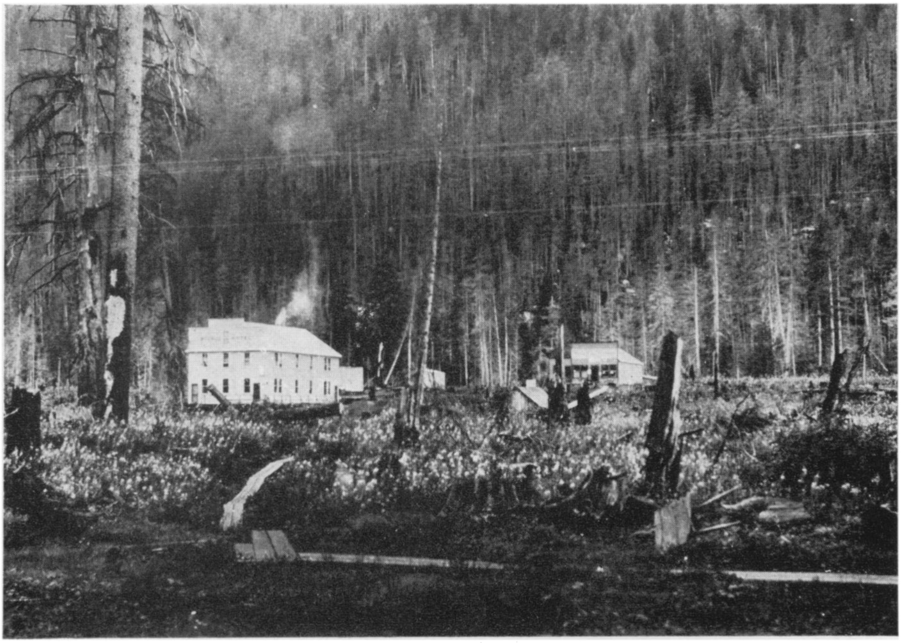

FIG. 8.

FIG. 7—One of the typical new towns springing up on the prairies of Saskatchewan.

FIG. 8—The "town" of Pacific, B. C., on the narrow flat of the Skeena River, 120 miles east of Prince Rupert. Note the steep slope in the background.

There is left to consider only the effects of incoming traffic on the development of these two commercial centers. It has been claimed repeatedly as one of the assets of Prince Rupert that its trans-continental railroad connections offer the shortest possible line of communication between the Far East and eastern Canada or western Europe and that this possibility of expeditious transportation ought to make the place an important center for handling Oriental wares for Canada, the United States, and western Europe. The savings of distance and time, however, compared with other routes from the Far East, are not great enough to weigh very heavily in the movement of anything except mails, perhaps passengers, and possibly the highest class of package freight. The area which can be served most easily by Prince Rupert, as an import center, now has and for a long time presumably will have only a rural population with but little demand for Oriental wares. There is small chance, therefore, for the immediate development of an import trade of any large proportions through Prince Rupert from China and Japan. The best prospect for the development of import trade at Prince Rupert is to be found probably in the fresh-fish traffic from northern British Columbia and Alaskan waters to markets in Canada and the United States. In that respect, Prince Rupert has a distinct advantage over any other Pacific port, because of the saving of time in transit for a perishable commodity; but, judging from other fishing centers, that activity is not likely to contribute greatly to the commercial development of Prince Rupert.

Vancouver, on the other hand, is close to more important centers of population both in Canada and in the United States with increasing demands for Oriental wares, the handling of which will, as heretofore, contribute materially to the commercial progress of that center. Of late years one of the large items in the traffic at Vancouver has been raw silk from China and Japan destined largely for factories in the United States. This traffic, for example, probably could not be diverted to Prince Rupert, because of the much longer land haul from the port to the ultimate destination. Thus Winnipeg, the common point on the eastbound journey for all western Canadian lines, is 1,748 miles from Prince Rupert and 1,484 miles from Vancouver. Similarly, other Oriental wares logically would enter in greater amounts through Vancouver, because of established lines of shipping, solidly intrenched commercial relations, and the number and distribution of people composing the market.

Putting together all these considerations of location, distances, character of tributary areas, routes of transportation, and distribution of population, the sum-total of geographic factors affecting the Vancouver center seems to insure it a continuance of prosperous development. On the other hand, the combination of factors affecting the Prince Rupert center is so unfavorable that only very slow and unimportant development seems to be in store for it for years to come.